

REMARKS

Applicant respectfully requests reconsideration of the present application in view of the amendments set forth above and the remarks below.

Claims 1-10 are pending in the application and are rejected. Claims 11-20 are herein cancelled without prejudice in response to a restriction requirement made by the Examiner. New claims 21-26 are herein added.

Drawing Objections

The Examiner objects to Figures 2-4 due to a misspelling of the term “system” for element 136. Applicant encloses replacement drawing sheets 2/9, 3/9, and 4/9 to overcome the objections to the drawings. Applicant respectfully requests approval for the indicated changes from the Examiner.

Claim Objections

The Examiner objects to claim 2 and 3 due to inconsistency of the terms “switch” and “device” as set forth on page 2 of the Office Action. Applicant has amended these claims accordingly to use the term “device.”

§112 Rejections

Claims 5-7 are rejected under 35 U.S.C. §112, second paragraph, on antecedent basis/dependency bases as set forth on page 2 of the Office Action. Applicant amends claim 5 to depend from claim 4 as suggested by the Examiner.

The Prior Art Rejections

The Examiner rejects claims 1, 9 and 10 under 35 U.S.C. §102(e) over U.S. Patent No. 6,198,856 to Shroeder et al.

Applicant amends claim 1 to clarify that in the claimed optical switch device incoming data is contained in a bearer signal to pass to the switch fabric and the input ports are to receive the data from a wave division demultiplexer and that outgoing data passes from the switch fabric via output ports to transmit the data to a wave division multiplexer. Claim 1 is further amended to clarify that the first demultiplexing device is coupled to at least one of the plurality of input

ports to inject an optical connection verification signal into the switch fabric and that the signal generator is coupled to the first demultiplexing device for injecting the connection verification signal into the switch fabric at a frequency that is different from a frequency of the bearer signal.

With this arrangement, input/output connections through the switch can be verified by selectively switching in the connection verification signal on a polling basis, for example. A relatively low-speed connection verification signal from the signal generator can be injected via the input ports and extracted at the output ports for examination by a signal analyzer.

In contrast, Schroeder requires a test column 50 and a test row 60 of "additional switch elements" added to optical switch core matrix 11. Schroeder further requires an optical reflector 51 at the intersection of the test column 50 and the test row 60.

Applicant submits that the arrangement of claim 1 is patentably distinguishable over the system disclosed by Schroeder. Amended claim 1 requires a plurality of input ports through which incoming *data* is contained in *a bearer signal* is passed to the switch fabric and a signal generator coupled to the first demultiplexing device for injecting *the connection verification signal* into the switch fabric *at a frequency that is different from a frequency of the bearer signal*.

Applicant submits that the test column/row arrangement of Schroeder, which includes optical reflector 51 at the column/row intersection, does not teach or suggest the claimed optical switch device having input ports to receive incoming *data* contained in *a bearer signal*. More particularly, the test row, as well as the test column/test row intersection and reflector 51, do not receive data, but rather merely test signals. Applicant further submits that Schroeder fails to disclose or suggest the claimed arrangement requiring a signal generator coupled to the first multiplexing device for injecting a connection verification signal into the switch fabric at a frequency that is *different from a frequency of the bearer signal*.

Accordingly, Applicant submits that claim 1 is patentably distinguishable over Schroeder. For substantially the same reasons, Applicant submits that claims 2-10 are distinguishable over Schroeder.

Claims 1 and 4-9 are rejected under §102 over U.S. Patent No. 5,867,289 to Gerstel et al. The Examiner equates the claimed first demultiplexing device to the wavelength demultiplexer 203 of Gerstel. Applicant submits that the wavelength demultiplexer 203 of Gerstel does not teach the claimed first demultiplexing device, but rather is more akin to the wave division multiplexer (see element 118 of FIG. 1 of the present specification) providing data signals to the input ports (108).

More particularly, amended claim 1 requires an optical switch device including a plurality of input ports through which incoming data contained in a bearer signal passes to the switch fabric where the input ports receive the data from a *wave division demultiplexer*. Claim 1 further requires a *first demultiplexing device* coupled to at least one of the plurality of input ports *to inject an optical connection verification signal* into the switch fabric.

With this arrangement, the connection verification signal can be provided to the input ports on a polling basis via the first demultiplexing device coupled to a signal generator. The connection verification signal can be extracted at the output ports by a signal analyzer coupled to a first multiplexing device. Data from the output ports is then received by multiplexer device, such as the multiplexer 122 of FIG. 1.

Accordingly, Applicant submits that claim 1 is patentably distinguishable over Gerstel. For substantially the same reasons, Applicant submits that claims 2-10 are also distinguishable over Gerstel.

Applicant further submits that claim 4 is distinguishable over Gerstel for additional reasons. Claim 4 requires an optical switch device having first and second switch fabrics. And Claim 5 requires that at least one of the plurality of input ports includes a splitter for splitting a

signal incoming to the at least one input port into first and second signals, wherein the first signal is received by the first switch fabric and the second signal is received by the second switch fabric. An exemplary embodiment of the claimed arrangement is shown in FIG. 5 of the present application in which the first and second switch fabrics include broadcast capability.

Applicant submits that Gerstel does teach or suggest any such arrangement. The Examiner asserts that "the demultiplexers 203 act as splitters to split an incoming signal to at least first and second signals of different wavelengths, the first and second signals being received by respective switch fabrics 204 with corresponding wavelengths." As described in the specification, the claimed first and second fabrics provide redundancy so that a failure of one fabric does not prevent continued operation of the switch since the non-failed fabric can provide signals to the output ports. Clearly, this arrangement is not taught or suggested by Gerstel.

Accordingly, for the additional reasons discussed above, Applicant submits that claims 4-7 are distinguishable over Gerstel.

The Examiner rejects claims 2 and 8 under §103 over Schroeder. Applicant respectfully requests clarification for the rejection of claim 3 under §102 over Schroeder and the rejection of claim 2 under §103 over Schroeder. Applicant also notes that claim 3 is not cited on page 3 of the Office Action where the claims rejected under §102 over Schroeder are listed and that claim 3 is discussed on page 4 of the Office Action setting forth the §102 Schroeder rejections.

Applicant submits that Schroeder does not teach or suggest any of the features required by claims 2 and/or 3. At column 8, lines 21-31, cited by the Examiner, Schroeder merely explains that "multiple switches are interconnected over a geographically switched area" so that "it is possible to send a test signal out of one of the outputs to be detected in a *downstream* matrix." (emphasis added). Thus, the architecture of any one switch disclosed by Schroeder does not include the claimed elements, but rather multiple switches have the same architecture can be cascaded. This is quite different from the additional functionality provided by the features of claims 2 and 3.

In view of the above, Applicant submits that claims 1-10 are in condition for allowance and a notice thereof is respectfully requested.

Applicant respectfully requests consideration for new claims 21-26, which substantially track claims 1-8.

The Examiner is respectfully invited to telephone the undersigning attorney if there are any questions regarding this Amendment or this application.

The Assistant Commissioner is hereby authorized to charge payment of any additional fees associated with this communication or credit any overpayment to Deposit Account No. 500845.

Dated: 3 Feb 04

Respectfully submitted,

DALY, CROWLEY & MOFFORD, LLP

By: Paul D. Durkee

Paul D. Durkee
Reg. No. 41,003
Attorney for Applicant(s)
275 Turnpike Street, Suite 101
Canton, MA 02021-2354
Tel.: (781) 401-9988, ext. 21
Fax: (781) 401-9966
pdd@dc-m.com

Q:\att-017pus\response to oa dated 10-3-03.doc